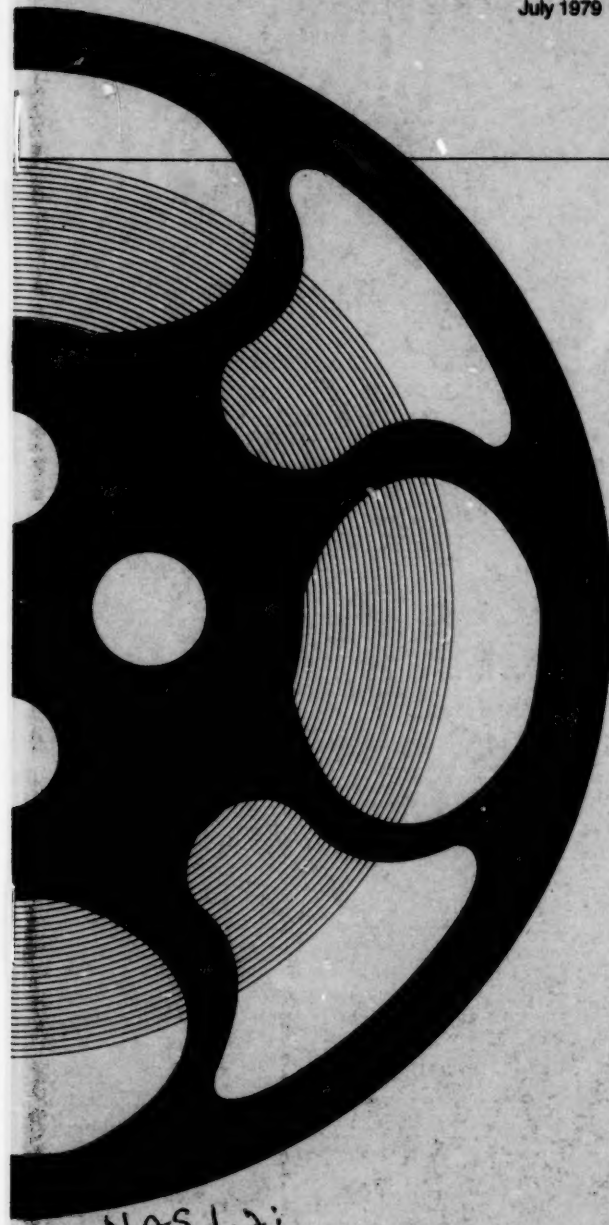


F48/979

NASA Films
July 1979



NAS 1.2:

NASA Films

NASA Films have been honored with more than 200 major awards for creative excellence from domestic and foreign film festivals.

Foreign Awards include competition in Brazil, Italy, Spain, Scotland, Yugoslavia, Belgium, Australia, Czechoslovakia, Mexico, Argentina, France, and Egypt.

Major Domestic Awards have been received from the American Film Festival, Columbus Film Festival, CINE, San Francisco Film Festival Information Film Producers Association, U.S. Industrial Film Festival, Festival of the Americas, Industry Film Producers Association, and the New York International Film and TV Festival.

HOW TO ORDER FREE LOAN NASA MOTION PICTURES

The National Aeronautics and Space Administration produces films describing NASA research and development programs and achievements in space and aeronautics, and the results of this research. All films are 16mm format with optical sound track.

These films may be borrowed for showings to educational, civil, industrial, professional, youth and similar groups. They may also be shown as unsponsored public service telecasts, unless otherwise indicated. Local video tape transfer is encouraged. Television stations with urgent requirements should call (202) 755-3500. There is no rental charge; however, borrowers must pay the cost of return postage and insurance.

When ordering a film, please give the name, address and zip code of the person and the organization assuming responsibility for the film. Films cannot be lent to minors. Please specify first and alternative choices of showing dates, and list any alternate film desired in case the requested film is not available. Please order films at least 45 days in advance of showing date.

Since the films are booked on a very tight schedule, they must be returned the day following your show date. Overdue films mean canceling the next organization scheduled to receive the film.

To enable our regional film libraries to expedite the handling of your order, it is essential that your request includes both the complete film title and the identifying number (e.g. Universe, HQ-220).

Foreign requesters may obtain information about the purchase of films by writing to the National Audiovisual Center (GSA), Washington, D.C. 20409. A few NASA films (in English or occasionally in a language version) may be available for loan from the United States International Communications Repre-

sentative at the American Embassy in the national capital of the country. Requests for information about the loan of films should be addressed to the Public Affairs Officer at the American Embassy.

Selected NASA films may also be borrowed for a fee in the following countries from the listed film libraries:

National Film Library
75 Albert Street
Suite B20
Ottawa, Ontario, Canada K1P5E7

*Supervisor, Educational Media Division
Department of Extension
The University of Alberta
82nd Avenue and 112th Street
Edmonton, Alberta, T6G 2E1
Canada

New American Film Library
Mr. Klaas Padding
Geestbrugweg 128
Rijswijk (Z-H)
(Netherlands Only)

British Interplanetary Society
12 Bessborough Gardens
London S.W. 1 V2 JJ
England
(Great Britain Only)

*Serves Western Canada and Northern Territories for 3 day bookings.

Purchase

Organizations requiring films on a long term or multiple use basis may wish to obtain prints for their own library. NASA films can be purchased from the National Audiovisual Center. See page 25 for prices and ordering information.

NASA Regional Film Libraries

If you live in:

Connecticut
Maine
Massachusetts
New Hampshire
New York
Rhode Island
Vermont

Write to:

National Audiovisual Center
(NAC)
General Services
Administration
Washington, DC 20409
(301) 763-1891

Alaska
Arizona
California
Hawaii
Idaho
Montana
Nevada
Oregon
Utah
Washington
Wyoming

NASA Ames Research Center
Public Affairs Office, 204-12
Moffett Field, CA 94035
(415) 965-6278

Alabama
Arkansas
Iowa
Louisiana
Mississippi
Missouri
Tennessee

NASA George C. Marshall
Space Flight Center
Public Affairs Office, CA-20
Marshall Space Flight
Center, AL 35812
(205) 453-0040

Delaware
District of Columbia
Maryland
New Jersey
Pennsylvania

NASA Goddard Space Flight
Center
Public Affairs Office
Code 202
Greenbelt, MD 20771
(301) 344-7205

Florida
Georgia
Puerto Rico
Virgin Islands

NASA John F. Kennedy
Space Center
Public Affairs Office
Code PA-EPS
Kennedy Space Center
FL 32899
(305) 867-4444

Kentucky
North Carolina
South Carolina
Virginia
West Virginia

NASA Langley Research
Center
Mail Stop 154
Office of Public Affairs
and Educational Programs
Hampton, VA 23665
(804) 827-3521

Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

NASA Lewis Research Center
Office of Educational Services
21000 Brookpark Road
Cleveland, OH 44135
(216) 433-4000 ext. 708

Colorado
Kansas
Nebraska
New Mexico
North Dakota
Oklahoma
South Dakota
Texas

NASA Lyndon B. Johnson
Space Center
PTD, Audiovisual Services AP-3
Houston, TX 77058
(713) 333-4980

Alaska requesters may also obtain selected NASA film from:

Alaska State Library
Pouch G
Juneau, Alaska 99801

Requests for NASA films within the Hawaiian Islands can also be referred to The Department of Education, State of Hawaii, Office of Library Services, Support Services Branch, 641-18th Avenue, Honolulu, HI 96816

FILMS OF GENERAL INTEREST

Please Note:

Some films, although dated, are retained in this film list because of continuing historical interest.

Note release dates following titles.

The Apollo 4 Mission. HQa 181—1968—COLOR—16 MINS. The story of the assembly and launching of the first unmanned Apollo/Saturn V space vehicle. Shows detail of the stage separation, acceleration to an altitude of 11,232 miles above Earth, and effects of reentry on the unmanned Apollo command module at a speed of approximately 40,000 kilometers (25,000 miles) an hour.

The Flight of Apollo 7. HQ 187—1968—COLOR—14 MINS. A report on the first manned mission in the Apollo series. Major events covered are the launching, rendezvous and docking maneuvers, television transmissions, reentry and recovery. The film includes scenes of Astronauts Schirra, Eisele and Cunningham living and working aboard the command module during their 11-day Earth-orbital flight.

Debrief: Apollo 8. HQ 188—1969—COLOR—28 MINS. The story of man's first journey in orbit around the Moon with comments on the significance of the Apollo 8 flight by several prominent Americans. The film features photography of the lunar surface, the Earth as seen from the Moon, and the on-board activities of Astronauts Borman, Lovell and Anders.
AWARDS: *Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1969 • Bronze Medal, Atlanta Film Festival, 1969*

Apollo 9: The Space Duel of Spider and Gumdrop. HQ 189—1969—COLOR—28½ MINS. An introspective view of the Apollo 9 Astronauts, McDivitt, Scott and Schweickart, before, during and after their Earth-orbital mission. With minimal narration and special music, the film concentrates on the launching, rendezvous and docking of the command module (Gumdrop) and the lunar module (Spider), and the return and recovery of the crew.

Apollo 10: Green Light for a Lunar Landing. HQ 190—1969—COLOR—28½ MINS. Features highlights of the second lunar orbital mission by Astronauts Stafford, Cernan and Young, including docking and descent of the lunar module within 16 kilometers (10 miles) of the lunar surface. This mission, which was a "dress rehearsal" for the first lunar landing, provided good views of the Moon and the Earth.
AWARDS: *Chris Statuette, Columbus Film Festival, 1969*

Eagle Has Landed: The Flight of Apollo 11. HQ 194—1969—COLOR—28½ MINS. The story of the historic first landing of men on the Moon in July, 1969. Depicts the principal highlight events of the mission from launching through post-recovery activities of Astronauts Armstrong, Aldrin and Collins. Through television, motion picture and still photography, the film provides an "eyewitness" perspective of the Apollo 11 mission.
AWARDS: *Certificate of Exhibition, Edinburgh Film Festival, 1969 • Certificate of Merit, American Science Film Association, 1969 • Gold Camera, U.S. Industrial Film Festival, 1970 • Ionosphere Award, Atlanta International Film Festival, 1970*

Apollo 12: Pinpoint for Science. HQ 197—1969—COLOR—28 MINS. Emphasizing the scientific studies involved and the pinpoint accuracy of the landing, this film documents the second manned lunar landing in November, 1969. Highlights of this mission flown by Astronauts Conrad, Gordon and Bean include the placement of scientific equipment on the Moon, inspection of an unmanned Surveyor spacecraft landed on the Moon in 1967, collection of soil and rock samples, and extensive photography.
AWARDS: *Golden Missile, Rassegna, Rome, 1970 • Gold Nikola Tesla Medal, International Festival of Scientific*

Technical Films, Belgrade, 1970 • Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1970 • Certificate of Honor, International Exhibition of Scientific Films, Buenos Aires, 1970

Apollo 13: "Houston . . . We've Got a Problem." HQ 200—1970—COLOR—28 MINS. The dramatic fight to return the crewmen of the Apollo 13 mission safely to Earth following an explosion on board the service module. Emphasizes Mission Control and spacecraft teamwork in overcoming the life-or-death problems of Apollo 13 as well as worldwide reaction to the crisis. **AWARDS:** *U.S. Industrial Film Festival—1971*

Apollo 14: Mission to Fra Mauro. HQ 211—1971—COLOR—28 MINS. A factual documentary account of the mission. The film includes problems encountered on the way to the Moon and how they were solved. It then depicts the activities during the scientific and geological traverses on the Moon, and the return journey to Earth. **AWARDS:** *Chris Certificate, Columbus Film Festival, 1971 • Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1971*

Apollo 15: In the Mountains of the Moon. HQ 217—1971—COLOR—28 MINS. Story of the highly successful 4th lunar landing mission. Includes details of the three lunar surface scientific expeditions, the experiments in lunar orbit, and the dramatic return to Earth. **AWARDS:** *Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1972 • Chris Award, 20th Annual Columbus Film Festival, 1972*

Apollo 16: Nothing So Hidden. HQ 222—1972—COLOR—28 MINS. "There is nothing so far removed from us to be beyond our reach, or so hidden that we cannot discover it."
—Rene Descartes

The film is a visual documentary account of the Apollo 16 lunar landing mission, and exploration in the highland region of the Moon, near the crater Descartes. Through the use of cinema verite techniques, the real time anxieties and lighter moments of the support teams were captured in Mission Control and the Science Support Room. The film includes some of the most spectacular lunar photography of any Apollo mission.

AWARDS: *Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1972 • Special Prize, 20th International Exhibition of Specialized Cinematography, Rome, Italy, 1973*

Apollo 17: On the Shoulders of Giants. HQ 227—1973—COLOR—28 MINS. A documentary view of the Apollo 17 journey to Taurus—Littrow, the final lunar landing mission in the Apollo Program. The film depicts the highlights of the mission and then relates the Apollo

Program to Skylab, the Apollo/Soyuz link-up and Space Shuttle.

AWARDS: *Chris Bronze Plaque Award, 21st Annual Columbus Film Festival, 1973 • Trophy of the Italian Department of Defense • 1st International Review of Cinema and TV Films on Flight, Milan, Italy, 1974*

The Time of Apollo. HQ 229—1975—COLOR—28 MINS. In the year 1961, the President of the United States set forth the task. . . "This nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to Earth." The decade is over and the task has been accomplished. Project Apollo has been achieved. This film is a tribute to the historical accomplishment and era.

AWARDS: *Special mention award—17th International Festival of Documentary and Short Films, Bilbao, Spain—1976. Silver Medal Award, Festival of the Americas—1976*

The Mission of Apollo/Soyuz. HQ 256—1975—

COLOR—28 MINS. The Apollo/Soyuz Mission was a precedent setting event in the sphere of international manned space flight. The film stresses the spirit of cooperation and friendship that helped make the mission a success. It generally follows the mission timeline, with appropriate flashbacks to detail the period of development and training, and concludes with a projection on the future of international cooperation in space featuring the Space Shuttle and the European development, Spacelab.

(Post-mission film)

AWARD: *Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1975*

The Age of Space Transportation. HQa 262—1976—

COLOR—20 MINS. The space age is making itself felt all over the place. Among the "places" are health care, education, medical research, communications, earth resources and environment management, manufacturing, and astronomy. "The Age of Space Transportation" views all of these . . . and one more: Transportation. It takes a particular look at mankind's next giant step in moving around, the Space Shuttle, the vehicle itself, and its implications.

Adventures in Research. HQa 255—1975—COLOR—18

MINS. This film describes how the NASA/Ames Research Center in California is involved in research. It shows the need for basic scientific research and how this research is conducted at one NASA facility. Research in aeronautics through flight simulation, wind tunnel, and V/STOL testing is emphasized; also the work of life sciences, planetary exploration, and advanced computation using the world's largest computer, the "Illiac". In addition, Ames Research Center is involved in the interplanetary missions of the Pioneer spacecraft to Jupiter, Saturn and beyond as

well as contributions to the Viking Mars and future planetary space missions.

Assignment: Shoot the Moon. HQ 167—1967—COLOR—28 MINS. Summarizes the exploration of the Moon conducted through unmanned Ranger, Surveyor and Lunar Orbiter spacecraft, and shows how such detailed data and photography contributed to the first manned flights to the Moon. The film describes the complexities of closeup photography of the Moon, and includes good views of craters, mountain ranges and other lunar terrain.

AWARDS: *Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1968 • Award of Merit, American Film Festival, 1968*

Blue Planet. HQ 224—1972—COLOR—10½ MINS. An overview of the space program featuring the highlights of America's role in space exploration. It visually portrays a composite lunar landing mission and a few of the key benefits that we are realizing from unmanned missions. The film ran as a theatrical short subject for two years beginning at the Radio City Music Hall, New York. Narrated by Burgess Meredith. **AWARDS:** *U.S. Industrial Film Festival, 1972 • Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1972*

The Clouds of Venus. HQa 82—1963—COLOR—30 MINS. A documentary of the flight of MARINER II which was launched on Aug. 27, 1962, our first effort to obtain scientific data of Venus from an unmanned spacecraft passing by the planet. Shows the position of Venus within our solar system and some of the features. Presents the flight profile, trajectory, spacecraft features, and the experiments conducted throughout 109 days and 180 million miles of travel. A few preliminary findings are summarized.

David's World. HQa 297—1978—COLOR—11 MINS. The film documents highlights in the development of the mobile biological isolation system—the system initially developed for Houston's well-known "Bubble Baby," David. The film shows David's first excursion in the suit and his obvious delight with the freedom it allows him. Further, development of such suits will be for use by immuned-deficient patients undergoing chemotherapy.

The Dream That Wouldn't Down. HQk 125—1965 B/W—27 MINS. The dream of Dr. Robert Goddard, the father of modern rocketry, is explored and examined through reminiscences of Mrs. Goddard. Included are historic scenes of Dr. Goddard's early experiments and the personal commentary of Mrs. Goddard.

Five Minutes to Live. HQa 253—1975—COLOR—18 MINS. This informational film shows a dramatic



example of space technology utilization—Telecare, an advanced emergency care system. The film depicts Houston paramedics saving the life of a coronary victim. Space program origin of system components is explained.

AWARDS: *Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1975 • Bronze Medal, Atlanta Film Festival, 1975 • Silver Hugo, 11th International Chicago Film Festival, 1975*

The Flight of Faith 7. HQa 101—1963—COLOR—28 MINS. The story of the last flight in the one-man Project Mercury series. The film follows Astronaut Gordon Cooper from preflight training through the launching, Earth orbital flight and recovery.

Flying Machines. HQ 265—1978—COLOR—28 MINS. Emphasizes aviation today and tomorrow. How we got where we are and plans for future research and development. Wind tunnels . . . power plants . . . materials . . . safety . . . comfort . . . economy . . . fuel-saving . . . speed . . . convenience . . . efficiency . . . noise abatement. NASA aeronautical research has answered some tough questions and is looking to solve current problems with innovative solutions.
AWARDS: *Silver Medal, International Film and TV Festival of New York, 1978 • Golden Eagle Certificate, Council on International Non-theatrical Event (CINE), 1979*

The Four Days of Gemini 4. HQa 134—1965—COLOR—27½ MINS. Documents the first extravehicular activity or "walk in space" by an American astronaut during the Gemini 4 mission. Details of the Gemini space suit and a "space gun" propulsion system are shown, as well as the mission activities of Astronauts White and McDivitt.

4 RMS—Earth View. HQ 239—1975—COLOR—28 MINS. Skylab was the first United States manned space station. This is the story of the three missions, the nine astronauts and their 171 days in the manned laboratory. Criss-crossing 70 per cent of Earth's land area, Skylab's sensors gathered information about many features of the planet. Actor E. G. Marshall is host and moderator.

AWARDS: *Silver Medal International Film and TV Festival, New York, 1975 • Golden Eagle, Council on International Non-theatrical Events (CINE), 1975*

Freedom 7. HQa 51—1961—COLOR—28½ MINS. The first American manned space mission is the subject of this film. The training, preparation, launching and recovery of Astronaut Shepard for this first Project Mercury suborbital flight are included.

Friendship 7. HQa 59—1962—COLOR—58 MINS. An historical documentary which illustrates in detail the first American orbital space flight by Astronaut

Glenn in 1962. The film also provides background on Project Mercury and the tracking network planned for the one-man Mercury missions.

AWARDS: *Silver Trophy, Genoa Communications Exhibition, 1965 • Silver Medal, San Francisco International Film Festival, 1962 • Monza Prize, International Festival of Industrial and Artisan Films, Milan, 1962 • Diploma of Honor, Prix Femina du Cinema, Brussels, 1962 • Statuette, Industrial Photography Film Awards, 1962*

The House That NASA Built. HQ 288—1978—COLOR—14 MINS. A motion picture about a unique lived-in house built at the NASA Langley Research Center in Virginia to demonstrate some of the new technologies available to home builders and home owners—technologies that can enhance energy and water conservation, safety and security.

AWARDS: *Golden Eagle Certificate, Council on International Non-theatrical Events (CINE), 1978*

If One Today—Two Tomorrow. HQ 273—1976—COLOR—28 MINS. Addresses the need for the worldwide use of communication technology for learning and growing as world population increase. The film takes you to India, Pakistan, El Salvador, Niger, Kenya, Thailand, Ecuador, Bolivia, Guatemala, Alaska and to remote Indian communities in the U.S. It graphically describes how radio, television, and communications satellite systems are used as instruments for education.

Images of Life. HQ 272—1976—COLOR—25 MINS. The film concentrates on the resources assessment capabilities offered by Earth-orbiting Landsat satellites. Special imagery from the Landsats provides a means for monitoring global conditions and expanding information on the planet's structure and resources. Landsat data are used to gain new insights into agriculture, mineral deposits, oceanography geology and numerous other areas of concern. Examples of Landsat data in this film are worldwide in scope.
AWARDS: *The Chris Plaque, Columbus Film Festival, 1978 • Bronze Award Astrofest, 1978 Skoltja, Yugoslavia*

Jupiter Odyssey. HQa 243—1974—COLOR—28 MINS. This is the story of the 620-million-mile journey of Pioneer 10 to the planet Jupiter. This was the first spacecraft to travel beyond Mars to the outer planets of our solar system. During the 21-month trip to Jupiter, Pioneer penetrated the previously unexplored asteroid belt without mishap, eliminating the long held fear that high speed particles, or huge asteroids might destroy the spacecraft. The film tells of the findings and questions raised about the mysterious planet that were recorded by the scientific instruments and cameras onboard. After leaving the Jovian system of the huge planet with its 12 orbiting satellites, Pioneer is on a course that will cause the spacecraft to leave our solar system and wander endlessly

through our Milky Way Galaxy, carrying a message for possible extraterrestrial beings.

AWARDS: *Golden Eagle, Council on International Non-theatrical Events (CINE), 1975*

Legacy of Gemini. HQ 160—1967—COLOR—27½ MINS. In the perspective of a single composite mission, this documentary illustrates the major accomplishments of the Gemini two-man space flights and the growing as world population increases. The film includes outstanding photography of the Earth and man in space.

AWARDS: *Golden Eagle, Council on International Nontheatrical Events (CINE), 1968 • Silver Medal, Atlanta International Film Festival, 1968 • Chris Award, Columbus Film Festival, 1968 • Award of Merit, American Film Festival, 1968*

A Man's Reach Should Exceed His Grasp. HQa 219—1972—COLOR—23½ MINS. This film represents the story of flight and of man's reach for a new freedom through aviation and the exploration of space. From the Wright Brothers flight at Kitty Hawk to the landing on the Moon and future missions to the planets, the film depicts the fulfillment of the ancient dream of flight. Through the use of multiple images, the creative role of research is emphasized. Voices of scientists and statements by writers, poets and philosophers document man's search for knowledge. The film is narrated by Burgess Meredith.

AWARDS: *Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1972 • Certificate of Creative Excellence, U.S. Industrial Film Festival, 1st Prize—International Festival of Aeronautics and Space Films, Paris, 1972 • Silver Phoenix, Atlanta International Film Festival, 1972*

Mars—The Search Begins. HQ 236—1973—COLOR—28½ MINS. The film depicts the planet Mars as known from the 7,000 pictures taken by the Mariner 9 spacecraft. The Viking project storyline is carried by scientists Carl Sagan, Cornell; Gerald Soffen, NASA; and Harold Masursky, U.S. Geological Survey.

AWARDS: *Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1974 • Lawrence Science Award National Educational Film Festival, 1974 • Blue Ribbon Award, American Film Festival, 1974 • Gold Medal Award, Atlanta International Film Festival, 1974*

Mercury, Exploration of a Planet. HQa 282—1976—COLOR—23½ MINS. The flight of the Mariner 10 spacecraft to Venus and Mercury is detailed in animation and photography. Views of Mercury are featured. Includes animation on origin of the solar system. Jet Propulsion Laboratory Director Dr. Bruce C. Murray comments on mission.

AWARDS: *Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1978*

A Mission for Mariner. HQa 192—1969—COLOR—14½ MINS. Illustrates, largely through animation, the principal results of the unmanned Mariner flyby of the planet Venus in 1967, including new knowledge of the composition and density of the Venusian atmosphere, surface pressure and temperature, mass and radiation. Briefly describes other Mariner missions.

A New Look at an Old Planet. HQ 178—1969—COLOR—26 MINS. Through experiences in the lives of a Texas coastal family, the film dramatizes the benefits of weather, communication and navigation satellites. The benefits of satellites in agricultural, oceanographic and natural resources studies in the 1970s are described.

New View of Space. HQ 214—1972—COLOR—28 MINS. A visual dynamic overview of the Space Program, past, present, and future using the underlying theme of photography to tell the story. A visual experience compiled from a selection of over nine million feet of film in the NASA Film Depository. **AWARDS:** Gold Camera Award, U.S. Industrial Film Festival, 1973 • Silver Cup and Diploma XXth Rassegna International, Rome, 1973 • Blue Ribbon Trophy, 15th Annual American Film Festival, New York, 1973 • Silver Cup and Diploma—20th Rassegna International, Rome, 1973 • 1st Place—Gold Camera Award, U.S. Industrial Film Festival, 1973 • Golden Eagle Certificate (CINE), 1973

Partnership Into Space—Mission Helios. HQ 254—1975—COLOR—27 MINS. This film follows the development and launch of HELIOS which orbits the Sun closer than any man-made object ever has. With a montage of art works depicting man's fascination with the Sun over the centuries, the film leads into present-day technological efforts to grasp the significance and influence of the Sun on our planet.

Planet Mars. HQ—283—1979—COLOR—28½ MINS. For centuries whenever men looked on Mars through their telescopes the planet appeared to them to be earthlike . . . a planet on which life could possibly exist. Mars, the Red Planet, was given top priority in planetary explorations and during the last decade we have sent spacecraft to observe and to photograph Mars. This motion picture, "Planet Mars" is an intriguing story of the exploration of our celestial neighbor.

From the beginning—the early investigation by telescope to latest chapter—the landing of the Viking robot lander on the Martian surface—the story unfolds in this NASA motion picture.

Research Project X-15. HQ 79—1966—COLOR—27 MINS. Shows the development of the experimental X-15 research airplane which took test pilots to the edge of space. Dramatic photography of flights of the

X-15 and landings on the dry lake beds of California is included.

Seeds of Discovery. HQ 196—1970—COLOR—28 MINS. An introduction to planetary exploration and scientific satellite research considered for the 1970s. The film briefly describes plans for Mariner flybys of Mars, Pioneer studies of Jupiter, landings of unmanned Viking spacecraft on Mars, a Grand Tour of the Outer Planets, and solar and other astronomy research. *AWARDS: Columbus Film Festival, 1970 • International Film & TV Festival, 1970 • Council on International Nontheatrical Events (CINE), 1971 • International Exhibition of Scientific Films, Buenos Aires, 1970 • Golden Mercury Film Prize, Venice, Italy, 1970*

Space Expectations. HQ 221—1973—COLOR—26½ MINS. A look at varied viewpoints of America's space program from a cross section of the general public. Communities throughout the U.S. were chosen to get reactions from the man-on-the-street, typical families, high school and college groups, and young people who were born on the dates of John Glenn's flight and the first lunar landing. The result is an interesting unrehearsed series of reactions to our space efforts.

Space Shuttle. HQ 285—1976—COLOR—15 MINS. Describes the reusable Space Shuttle which will replace nearly all expendable launch vehicles. Animation shows typical flight mission and planned uses of Shuttle. Film concludes with roll-out of first Shuttle Orbiter, the "Enterprise."

Spaceport—U.S.A. HQa 210—1970—COLOR—23 MINS. Shows the principal facilities at the John F. Kennedy Space Center as seen by a tourist.

Survival. HQ 274—1976—COLOR—17½ MINS. The film shows the use of space-age tools in predicting and coping with natural disaster. Satellite communications systems have proven invaluable in relief efforts.

The Age of Space Transportation. HQa 262—1976—COLOR—20 MINS. The space age is making itself felt all over the place. Among the "places" are health care, education, medical research, communications, earth resources and environment management, manufacturing, and astronomy. "The Age of Space Transportation" views all of these . . . and one more: Transportation. It takes a particular look at mankind's next giant step in moving around, the Space Shuttle, the vehicle itself, and its implications.

STARPAHC. HQa 268—1978—COLOR—28 MINS. STARPAHC is an acronym for a combined NASA and U.S. Indian Health Service Program. By portrayal of an individual illness, the audience is given an understanding of the workings of the health delivery system on the Arizona Papago Reservation. The patient, stricken at a remote village, is followed through

progressive health care stages, leading to diagnosis and treatment. Facilities, equipment and personnel functions are explained in concert with detailed methods of operation.

AWARDS: *The Chris Award, Columbus Film Festival, 1978*

Universe. HQ 220—1976—COLOR—28 MINS. A motion picture that explores almost inconceivable extremes of size and time—from the vast islands of stars called galaxies, to sub-atomic particles; from cosmic events that occurred billions of years in the past to micro-cosmic events in the present that endure for only a billionth of a second. The film dramatizes a mysterious and incredibly violent universe.

AWARDS: *Nominated for Best Documentary—Short Subject category in 49th annual awards competition of the Academy of Motion Picture Arts and Sciences • Council on International Nontheatrical Events (CINE) 1976 Bronze Medal • 19th San Francisco International Film Festival, 1976 • Gold Camera Award—Best of Festival U.S. Industrial Film Festival—1977. Blue Ribbon Award—American Film Festival, 1977, Bronze Cindy Award—U.S. Industrial Film Festival, 1977. Chris Statuette—Columbus Film Festival, 1977. 1st Prize—Cairo International Film Festival, Egypt, 1977*

A View of the Sky. HQ 163—1967—COLOR—27½ MINS. By use of symbolic photography, this film explores various historical theories of the origin and order of the solar system from Copernicus through Einstein, with a brief look at modern scientific exploration of space. Our knowledge of the solar system is traced through the view of a youth of today.

AWARD: *Chris Certificate, Columbus Film Festival, 1967*

The Vital Link. HQa 174—1967—COLOR—28½ MINS. A documentary view of NASA's worldwide tracking and communication system for manned and unmanned missions. The film shows how such stations guide and control unmanned spacecraft and communicated with Apollo astronauts during lunar missions.

The Weather Watchers. HQa 290—1977—COLOR—14½ MINS. This film dramatically explains the use and importance of meteorological and related information obtained from NASA Satellites as relating to severe storms. The film contains unusual footage of the formation of a tornado as well as actual shots of its awesome force.

AWARDS: *Gold Medal, International Film and TV Festival of New York, 1978 • Diploma, Astrofest, 1978, Skoltja, Yugoslavia*

Who's Out There? HQ 226—1975—COLOR—28 MINS. Orson Welles is the host and star of this extraordinary half hour film. A number of distinguished scientists conclude that there is some one out there, in outer space. From the monstrous Mars life forms of

his famous 1938 radio broadcast, "The War of the Worlds," Orson Welles takes us through science fiction to science fact—to the new view of extraterrestrial life now emerging from probes to the planets—to interstellar discoveries and findings about the nature of life itself. The film is a fascinating portrayal of a contemporary scientific conclusion that there exist intelligent civilizations in the universe—a real picture as astonishing as any science fiction.

AWARDS: *Silver Screen Award, U.S. Industrial Film Festival, 1975 • Chris Bronze Plaque, Columbus Film Festival, 1975*

Within This Decade: America in Space. HQ 191—1969—COLOR—28½ MINS. This film traces the principal accomplishments of NASA in aeronautics and space research from 1959 until the eve of the first lunar landing. Emphasis is placed on the progressive experience gained on each manned Apollo mission.

The World Was There. HQ 74—RERELEASED 1975—COLOR—27½ MINS. This film shows how the news media of the world covered the manned space launches of NASA's Project Mercury. Al Shepard makes the first U.S. suborbital flight and is awarded a medal by President Kennedy. Gus Grissom makes a suborbital flight and is almost lost during a dramatic recovery. John Glenn's three orbits of Earth, the New York and Washington receptions including his speech before Congress is given wide media coverage. Scott Carpenter's flight, the long recovery period when he was out of contact, and his meeting with his family is shown. Wally Schirra's launch and recovery is documented. A major part of the film deals with the Gordon Cooper flight its preparation, the 22 orbits of Earth, the recovery and receptions in Hawaii and Cape Kennedy. Narrated by Alexander Scourby.
AWARDS: *First Prize, Aeronautique Festival, Washington, D.C. 1965 • First Prize, Television Documentary, Vichy, 1965 • IN EXHIBITION, National Gallery of Art, 1965*

SPECIAL INTEREST FILMS

America's Wings. HQa 267—1976—COLOR—28 MINS. The airplane did not simply evolve. Everything that happened since Kitty Hawk, happened because somebody had an idea. "America's Wings" looks at some of these ideas, and "somebodies." They include: Igor Sikorsky who invented the helicopter, James Osborne whose small suggestion helped make jet transports flyable, Eastman Jacobs whose wind tunnel work in the 30's established the shape of airfoils, Adolph Busemann who thought of the sweptwing, Kelly Johnson who designed some 40 airplanes and Richard Whitcomb who thought of the supercritical wing, the "coke-bottle" fuselage and the winglet.

Automobile Tire Hydroplaning: What Happens. HQa 162—1967—COLOR—12 MINS. Shows how and why automobile tires lose contact with wet pavements and the relationship between speed, tire wear and water depth. The dangers of hydroplaning are emphasized. Produced jointly with the Bureau of Public Roads. Recommended for driver education.

Earth-Sun Relationship. HQ 235—1974—COLOR—6 MINS. An animated motion picture depicting how our Sun and planets were formed. The film further explains how, through NASA's space probes, we discovered the Van Allen belt and how the Earth is protected from solar wind and ion particles by the magnetosphere. Finally, the film depicts how a star dies.

Earthspace—Our Environment. HQa 294—1978—16mm—COLOR—15 MINS.

The film examines the discovery and development of understanding earth's magnetosphere. Included are leading scientists, animated diagrams, key historical events, spectacular shots of auroras, solar flares and Arctic research.

HEAO—The New Universe. HQa 281—1976—COLOR—19½ MINS. Describes the High Energy Astronomy Observatory (HEAO) program, man's newest attempt to probe the mysteries of the Universe.

Life Beyond Earth and the Mind of Man. HQ 245—1975—COLOR—27 MINS. The film is an edited version of a symposium held at Boston University on November 20, 1972. The symposium was to explore implications of the fascinating subject of possible existence of extraterrestrial life within our galaxy and the universe.

The distinguished panel members were:

- Dr. Richard Berendzen, Astronomy Professor and Historian of Science at Boston University
- Dr. Ashley Montagu, Anthropologist, Social Biologist and Author at Rutgers University
- Dr. Philip Morrison, Physicist Educator and Philosopher of Science at MIT
- Dr. Carl Sagan, Astronomer and Exobiologist at Cornell University
- Dr. Krister Stendahl, Clergyman and Theologian at Harvard University
- Dr. George Wald, Biologist at Harvard University

Meanwhile Back on Earth. HQ 225—1972—COLOR—13½ MINS. The film reviews the uses of a NASA-developed computer program (NASTRAN) for solving structural engineering design problems in industry. The film illustrates NASTRAN's impact on the design of automobile suspension, large coliseum domes, antenna towers, helicopters, electronic power plants, paper pulpmaking, railbeds and skyscrapers.

Moonflights and Medicine. HQa 228—1973—COLOR—25 MINS. NASA's efforts in extending the benefits of its research in medicine have many applications. Many inventions for space have been converted into equipment used daily by doctors, hospitals and nursing homes. This film presents examples of these developments.

Our Solar System. HQ 234—1973—COLOR—4½ MINS. Teaches names, line-up and characteristics of the planets in our solar system. The film is done in animation and sung to a catchy tune, "MY VERY EDUCATED MOTHER JUST SERVED US NINE PIZZA PIES."
AWARDS: Golden Eagle Certificate (CINE) 1974 • Silver Screen Award, Industrial Film Festival, 1974

Partners With Industry. HQ 252—1975—COLOR—12 MINS. This film is the story of how America's industry can benefit from NASA technology—now and in the future. Looking to the future, as NASA continues to explore the frontier of space, America's industrial community will rely heavily upon this developing resource. It touches almost every branch of science in almost every discipline of technology.

Radio Astronomy Explorer. HQa 186—1968—COLOR—30 MINS. Against a background of research currently performed by optical and ground-based radio astronomy, this describes the Radio Astronomy Explorer which provided information about radio waves emitted by the Sun, Earth, and Jupiter.

Research in the Atmosphere. HQa 180—1969—COLOR—25 MINS. Traces the methods used by man to explore the upper atmosphere and near Earth environment from ancient times until the present, including the use of balloons, sounding rockets and other devices. Presents a detailed examination of modern studies of ionized helium in the atmosphere, and how the data gained help scientists to construct a scientific "model."

Satellite Astronomy—Progress and Promise. HQ 193—1969—COLOR—17 MINS. This film briefly reviews some of the principal results of study of the Moon, near planets and the stars by means of unmanned spacecraft during the 1960s and briefly illustrates proposed studies in the 1970s.

Space Navigation. HQ 116—1967—COLOR—21 MINS. Explains in non-technical terms the mathematical principles of charting a course in space for both manned and unmanned spacecraft. Shows navigational techniques to be considered in future flights from the Earth to other planets, with emphasis on navigational problems and equipment used in the Apollo Program.
AWARDS: Chris Statuette, Columbus Film Festival, 1967 • Certificate of Exhibition, Edinburgh International

Film Festival, 1968 • Golden Eagle Certificate, Council on International Nontheatrical Events (CINE), 1968 • Gold Mercury Film Prize, Venice, Italy, 1967 • Certificate, Industry Film Producer's Association, 1967

Where Dreams Come True. HQ—296—1979—COLOR—28 MINS. A look at career opportunities in NASA for minorities and women. Says actor Ricardo Montalban in the narration of this film, "You don't have to be an astronaut or a scientist to work for NASA. The organization offers jobs ranging all the way from clerks, secretaries, electricians, safety engineers and administrators straight through to system analysts, computer programmers, scientists and, last but not least, astronauts."

Excellence, a positive outlook on life and ones' work, and a vivid imagination are some of the key ingredients that NASA looks for in its perspective employees.

This film will be a valuable source of information for not only minorities and women, but anyone who is interested in knowing what it is like to work for NASA.

FILMS FOR CLASSROOM USE

(Distributed with Film Lesson Guides for Teachers)

Environmental Series: Landsat, a Satellite For All Seasons

A series of six films describes use of NASA Landsat satellites for repeated rapid surveys of Earth's environment and resources at minimal costs.

The Wet Look. HQ 271—1976—COLOR—14½ MINS. Explores how Landsat's remote sensing capabilities help resolve water resource problems. The satellite provides information to hydrologists about snowfall in the mountains, enabling them to estimate the basic water supply available to western states. Landsat helps in controlling floods, both by monitoring flood plains, and by mapping snow packs and potentially dangerous man-made lakes. Landsat also makes valuable contributions in flood assessment and pollution control. **AWARDS:** Gold Medal, Virgin Islands International Film Festival, 1976 • Silver Award, 20th International Film Festival, New York, 1977

Pollution Solution? HQ 276—1976—COLOR—14½ MINS. The film discusses how Landsat's remote sensing capabilities can aid in resolving environmental quality problems. The satellite can locate and monitor strip-mining operations to facilitate land reclamation programs. The satellite helps solve some meteorological mysteries by tracking the path of airborne

pollution. It can also monitor the course of industrial wastes and garbage dumped into our lakes, rivers and coastal areas.

AWARDS: *U.S. Industrial Film Festival Creative Excellence—Conservation, 1976. Czechoslovakia Film Festival Gold Award, 1977*

The Fractured Look. HQ 277—1976—COLOR—14½ MINS. Examines the ways in which Landsat may serve as a tool in searching for minerals and monitoring geological hazards. The satellite can reveal fractures or faults that may indicate past, present and potential earthquake activity. Faults are also the pathways minerals use to make their way from deep within the Earth to its surface. By revealing fractures and rock alterations, Landsat imagery can contribute to exploration for mineral resources.

Growing Concerns. HQ 278—1976—COLOR—14½ MINS. The film introduces the Landsat satellite as a partial solution to the world's need to survey and monitor agricultural resources. The satellite's imagery is being used experimentally to supplement U.S. ground surveys in an effort to increase the accuracy of estimates of crop production and inventory. Three governmental agencies are cooperating in the Large Area Crop Inventory Experiment to see how Landsat can be used to estimate crop production on a world-wide basis. By providing a comprehensive view of our forest lands, the satellite information may help improve our management in the area of forestry. Satellite imagery can also help control insect destruction of crops and trees by pinpointing infested areas for spraying.

AWARDS: *The Chris Bronze Plaque Award Columbus International Film Festival, 1977. Silver Award 20th International Film Festival, New York, 1977*

Land for People, Land for Bears. HQ 279—COLOR—14½ MINS. Animals and people use the land—for shelter, food, transportation, recreation, to make their living. This particular film looks at how the Landsat satellite supplies a new kind of data for land use mapping and wildlife habitat mapping. The satellite's multi-spectral scanning instruments record the spectral signatures or reflectance values, of the components of the Earth's surface. In Florida's Brevard and Orange counties, Landsat imagery is used to monitor land development. Animal biologists are using data to identify habitats for the relocation of endangered animal species.

Remote Possibilities. HQ 280—COLOR—1976—14½ MINS. The responsible management of resources on Earth is a grave concern to all its inhabitants. This film presents Landsat and its "big picture from outer space." The concept of remote sensing is explained. The satellite can provide visual imagery of resource problems in the fields of environmental quality, geology,

water, land use and agriculture. The data acquired by the satellite is available to everyone to help resolve resource problems.

Life Science Series

A series of four films discussing the planet Mars and the NASA Viking life detection experiments. The films were produced before the Viking landings on Mars.

Life? HQ 261—COLOR—14½ MINS. General characteristics of life are first described with non-life similarities noted. A number of adaptations are included to show how life has adapted to Earth conditions, and how certain individuals can withstand environmental insults. In conclusion, the habitat of Mars is described with the question raised as to the possibility of life existing there.

AWARDS: Southern Education Communications Association Best Instructional Television Program, 1975-76, Best Instructional Design. San Francisco State University 26th Annual Film Festival, Broadcast Media Award, 1976. Plaque, Biofest International Film Festival, Novi Sad, Yugoslavia, 1976. CINE Golden Eagle. Council of International Non-theatrical Event Washington, D.C., 1977

Mars—Is There Life? HQ 263—COLOR—14½ MINS. Students are introduced to the possible past history of Mars, as well as its present surface topography—from volcanoes, ice caps, stream beds, impact craters, canyons and wind-eroded surfaces. The Viking lander and its biology experiments are discussed in relationship to the search for life on Mars. In conclusion, students are asked to consider life forms that might be able to survive on Mars, and the potential significance of their discovery.

Mars and Beyond. HQ 264—COLOR—14½ MINS. This film traces the Viking mission to Mars to specifically explore the biochemical evidence of life. Elementary chemical components of life (as we know it) are introduced; these are related to the organic analysis instrument on board the Viking lander. The instrument is described by design and operations. The program concludes with the potential significance of biochemical findings—how they may relate to past, present and future Martian life.
AWARDS: 19th International Film and TV Festival in New York, 1976.

A Question of Life. HQ 270—COLOR—28½ MINS. The film is a composite version of three 15-minute films: *Life?* (HQ 261), *Mars: Is There Life?* (HQ 263) and *Mars and Beyond* (HQ 264). A definition of life and general conditions necessary to sustain life are discussed. Viewers are introduced to the possible past history of Mars as well as its present surface

topography and its capacity to support life as we know it. Major emphasis is placed on the Viking life detection experiments including the three biology experiments and the organic analysis instrument. Consideration is given to the potential significance of discovering life elsewhere in the universe.

19 Minutes to Earth. HQ 292—COLOR—14½ MINS. The film examines the scientific findings of Viking Missions to Mars. Viewers are introduced to a variety of information returned to Earth from the planet Mars. This includes soil and atmospheric analyses; biological and geological data. Difficulties encountered in interpreting Viking data are discussed. Actual photographs taken by the Viking 1 and Viking 2 spacecraft from orbit and on the surface of Mars are accented in the program.

AWARDS: Gold Medal, International Film and TV Festival of New York, 1978

Skylab Science Demonstration Series

A six-film series depicting science demonstrations performed under zero-gravity conditions (weightlessness) on the Skylab 3 and 4 missions. Narrated by Dr. Owen K. Garriott, NASA astronaut.

Zero-G. HQa 260A—COLOR—15 MINS. A fascinating introduction to weightlessness aboard space station Skylab. In this high orbiting laboratory, men float gracefully and freely in three dimensions, performing experiments which can only be done in zero-gravity.

Conservation Laws in Zero-G. HQa 260B—COLOR—18 MINS. In weightlessness, a tumbling, twisting human can perform many startling demonstrations of angular momentum conservation. The film explores peculiar phenomena by interweaving Skylab demonstrations with earthbound photography. Example of simultaneous conservation of angular momentum and energy for non-rigid spinning bodies are discussed.

Gyroscopes in Space. HQa 260C—COLOR—15 MINS. The motion of gyroscopes is not only interesting to students, but also essential to space flight. Both aspects are explored by the film, which focuses on gyroscopic demonstrations and applications on Skylab. A perfectly free spinning gyro is observed for the first time.

Fluids in Weightlessness. HQa 260D—COLOR—15 MINS. The behavior of ordinary fluids in a weightless condition is astonishing. This film explores numerous fluid phenomena in orbit: behavior both mysterious in appearance and yet relevant to diverse fields of science and technology.

Magnetism in Space. HQa 260E—COLOR—19½ MINS.
The Earth's magnetic field extends far out into space. Its presence can be clearly demonstrated by releasing small magnets inside an orbiting spacecraft. The film reviews familiar aspects of magnetism and explores the behavior of magnets in weightlessness.

Magnetic Effects in Space. HQa 260F—COLOR—14 MINS. Dr. Garriott utilizes a classroom format to teach magnetism and the behavior of magnets in the Skylab orbiting spacecraft.

Rediscovery Series

A series of five dramatic Earth sciences films about natural and man-made disasters, featuring NASA's contribution of providing vital information to reduce or prevent casualties and property loss.

Hurricane Below. HQ 233—1974—COLOR—14 MINS.
"Hurricane Below" presents the gripping story of the plight of a commercial fishing vessel, caught in the path of a "killer" hurricane. The film dramatically shows the birth of "Mimi" off the coast of Africa, carefully tracing its growth and development as it eventually brings destruction to the Central Atlantic States. These events are powerfully portrayed against the successful efforts of the crew of the dragger "Dante" to escape by navigating around the center of the storm with the aid of modern technology, ship-to-shore communication and early warning weather satellites monitoring the *Hurricane Below*.

Tornado Below. HQ 246—1975—COLOR—14½ MINS.
The film involves a young female student pilot who almost gets caught in the path of a tornado on her first solo flight. The film explains how tornadoes are formed, their characteristics and the destruction they cause. It also relates to work being done in the laboratory to better understand the dreaded phenomenon and the importance of information from early warning weather satellites in an attempt to reduce casualties from the *Tornado Below*.

Pollution Below. HQ 247—1975—COLOR—14 MINS.
The film presents the stories of three people far apart, caught up in dangerous situations caused by unexpected pollution. Jacob Heath, who has just recovered from a heart attack, drives home after Thanksgiving dinner with his daughter's family and encounters a snow storm caused by smoke from nearby factories. Jimmy Howard, while fishing with his father, learns that his first fish may be poisoned by an acid dump at sea. Tom McEwen, champion kayaker, safely navigates violent rapids and finds himself paddling in the peaceful but dangerously polluted Potomac. The threatening pollution of these three

stories is seen through the eyes of NASA's satellite cameras, creating exciting images and colorful mosaics. The story is woven to a dramatic ending, each person a potential victim of the *Pollution Below*.

Earthquake Below. HQ 248—1975—COLOR—14 MINS.

This film takes us to lovely San Francisco, a shining jewel of a city, that lives in constant threat of earthquakes. Through a look back in time, we see how an earthquake shattered the San Francisco of 1906, and we experience the agony of a more recent earthquake in suburban Los Angeles. We learn how earthquakes are caused, and see the fault systems that are prime causes of earthquakes. San Francisco is serene and beautiful today, and yet we know what may happen at any time: the violence of the *Earthquake Below*.

Flood Below. HQ 249—1975—COLOR—16 MINS.

Presents the story of two cowboys, Cal and Pete, threatened as a flash flood thunders into the valley of their Rocky Mountain ranch. They remember how a similar flood once nearly destroyed a town where they were stationed in the Army and the agony from earlier floods has yielded information to help save many areas from future flood damage. Today, however, the ranch of Cal and Pete is in the direct path of the *Flood Below*.

Living In Space Series

Living in Space—Part I—The Case for Regeneration.

HQ 131A—1967—COLOR—20 MINS. Introduces the concept of regenerative life support. Shows what is needed to provide men with clean fresh air, drinkable water, food, personal hygiene, water disposal, temperature and humidity control. Indicates the problems involved in converting waste materials into usable products for manned flights of long duration.

Living in Space—Part II—Regenerative Processes.

HQ 131B—1967—COLOR—20 MINS. Shows the principles of physics, chemistry and mechanics employed in a regenerative life support system. Includes oxygen recovery, water purification, food and waste management, humidity and temperature control.

AWARDS: Certificate of Participation, 4th International Exhibition of Scientific & Technical Films, Brussels, Belgium • Certificate of Participation, 5th ANZAAS International Scientific Film Exhibition, Australia, 1967 • Honors Certificate, American Film Festival, 1966

Living in Space—Part III—A Technology for Spacecraft

Design. HQ 131C—1967—COLOR—12 MINS. Shows the features that must be incorporated into a spacecraft intended for long duration manned space flight

and the technology that is being developed to solve the numerous problems.

AWARDS: *Golden Radar Award and Certificate, XIV International Festival of Electronic, Nuclear Telecommunications and Motion Pictures, Rassegna, Italy, 1967*

Lunar Series

Reading the Moon's Secrets. HQa 275—1976—

COLOR—18 MINS. The film is divided into 10 short segments, each treating an important aspect of lunar knowledge, using Apollo-gained data as appropriate. It is designed to be used as a teaching film in science classes in secondary schools at the seventh-grade level and above. The student is expected to answer questions designed into the film in each segment. A discussion period will follow the screening of the film and will be based on an accompanying teacher's guide which contains the major part of the instruction related to the film.

The Moon—Old and New. HQa 209—1970—**COLOR—25½ MINS.** Shows what we have learned about the Moon from our unmanned spacecraft and our manned lunar landings.

AWARDS: *Council on International Nontheatrical Events (CINE), 1971 • 5th International Review of Didactic Films, Rome*

The Moon—An Emerging Planet. HQa 230—1973—

COLOR—13 MINS. The film reviews what we have learned of the early events in the history of the Moon, in nontechnical terms. It details the accretion, structural formation, volcanic activity and bombardment. It briefly compares the geology of the Moon with that of Earth and other planets.

Careers In Research

Films of primary value in career counseling. Each film shows, in a different way, the nature of basic scientific research and the life and work of the research scientist. Produced under the supervision of the University Film Foundation.

Ceramics in Space. HQ 142—1968—**COLOR—19½ MINS.** Using ceramics as a typical field of scientific study, the film shows how a graduate student develops the academic discipline needed to conduct original research including: search of scientific literature; definition of the problem; design, analysis and performance of experiments; collection and evaluation of data. Shows the relationship between student, faculty advisor and other scientific disciplines. Features Dr. James I. Mueller, Professor of Ceramic Engineering, University of Washington.

The Challenge of Unanswered Questions. HQ 148—1968—COLOR—15½ MINS. Presents the principal features of the aurora—one of the most mysterious and fascinating of natural phenomena. Shows the theories of its cause and the instruments and techniques used in studying it. Shows the life and experiences of a graduate student working under Dr. Sydney Chapman at the Geophysical Institute, University of Alaska.

Great Is the House of the Sun. HQ 144—1968—COLOR—21 MINS. Atop Mount Haleakala, the "House of the Sun," Dr. Walter Steiger and his colleagues from the University of Hawaii study the effects of the airglow phenomena and solar radiation in space, while other scientists prepare experiments to be flown aboard space satellites to study ultraviolet radiation.

It's You Against the Problem. HQ 146—1967—COLOR—23 MINS. Shows basic research in ablative materials being carried out by Dr. Simon Ostrach, Director, Division of Fluid, Thermal and Aerospace Sciences, Case Institute of Technology (now Case Western Reserve University) and by a graduate student working under Dr. Ostrach's guidance. Emphasizes the challenge of research and the education and life of a scientist.

AWARD: Golden Eagle Certificate, Committee on International Nontheatrical Events (CINE), 1967

The Poetry of Polymers. HQ 143—1967—COLOR—19 MINS. Shows research in polymers being carried out by Dr. Frank d'Alelio, Research Professor of Chemistry, University of Notre Dame. The molecular structure of polymers is explained and the molding of a polymer from basic ingredients is demonstrated. The challenge of inquiring into the basic nature of materials is dramatically presented.

X-Ray Spectroscopy—The Inside Story. HQ 140—1968—COLOR—26 MINS. Dr. Robert J. Liefeld, Professor of Physics, New Mexico State University, explains how X-rays are generated and how an X-ray spectrometer disperses them into a spectrum. He shows how specially-grown crystals are made and used in a two-crystal vacuum X-ray spectrometer to diffuse an X-ray beam, isolate a single wavelength, scan a spectrum and record its characteristics.

Filmstrips

The filmstrips listed below can be purchased from the National Audiovisual Center. See page 1 for ordering information.

Don't Build That Rocket Alone. FS—1—1965—COLOR—64 FRAMES; with audiotape and script. Emphasizes the importance of safety precautions and adult

supervision in building and launching experimental rockets. The dangers of improper handling of such rockets are illustrated.

Price \$10.00.

Electric Propulsion. FS—2—1965—COLOR—110 FRAMES; with script. Illustrates the techniques and advantages of electric propulsion and possible future uses for manned and unmanned space missions. Based on the NASA 16mm film of the same title.

Price \$5.50.

Geology from Space. FS—3—1967—COLOR—24 FRAMES; with audiotape and script. Using photographs of the Earth taken by Gemini astronauts, this filmstrip shows various geological features around the world and emphasizes how space photography aids geological study.

Price \$10.00.

In Sight of the Giant Steps. FS—4—1967—COLOR—40 FRAMES; with audiotape and teacher guide. Through the paintings and sketches of leading contemporary American artists, this filmstrip tells the story of space exploration. Produced for art and social studies as well as science, with assistance from the National Gallery of Art.

Price \$10.00.

Meteorology from Space. FS—5—1967—COLOR—22 FRAMES; with audiotape and script. Shows how space photography of storm centers and cloud formation provided new knowledge about the weather.

Price \$10.00.

FILM PRICES

NASA films and filmstrips can be purchased from the National Audiovisual Center.

Address all orders to:

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For invoicing, an official purchase order or letter on organizational letterhead is required. For direct payment make all checks or money orders payable to the National Archives Trust Fund (NAC). Foreign orders require prepayment.

Prices subject to change without notice. Please allow 30 to 60 days for delivery.

Videotape cassettes of all NASA films are available for purchase. For prices and information please contact National Audiovisual Center as above.

Film Title	Film No.	Price
Adventures in Research	HQa 255....	\$104.50
A Mans Reach Should Exceed His Grasp	HQa 219....	139.25
*Americas Wings	HQa 267....	
A Mission for Mariner	HQa 192....	87.00
A New Look at an Old Planet ..	HQ 178....	150.75
A Question of Life	HQ 270....	170.00
Apollo 10: Green Light for a Lunar Landing	HQ 190....	168.25
Apollo 13: "Houston We've Got a Problem"	HQ 200....	168.25
Apollo 15: In the Mountains of the Moon	HQ 217....	162.50
Apollo 14: Mission to Fra Mauro	HQ 211....	168.25
Apollo 16: Nothing So Hidden ..	HQ 222....	162.50
Apollo 17: On the Shoulders of Giants	HQ 227....	168.25
Apollo 12: Pinpoint for Science	HQ 197....	162.50
Apollo 9: The Space Duet of Spider and Gumdrops	HQ 189....	162.50
Assignment: Shoot the Moon ..	HQ 167....	162.50
Automobile Tire Hydroplaning: What Happens	HQa 162....	69.50
A View of the Sky	HQ 163....	162.50
Blue Planet	HQ 224....	63.75
Ceramics in Space	HQ 142....	116.00
Conservation Laws in Zero-G ..	HQa 260B ..	104.50
David's World	HQa 297....	63.75
Debrief: Apollo 8	HQ 188....	162.50
Eagle Has Landed: The Flight of Apollo 11	HQ 194....	168.25
Earthspace—Our Environment ..	HQa 294....	92.75
Earthquake Below	HQ 248....	87.00
Earth—Sun Relationship	HQ 235....	34.75
Five Minutes to Live	HQa 253....	104.50
Flying Machines	HQ 265....	162.50
Flood Below	HQ 249....	81.25
Fluids in Weightlessness	HQa 260D ..	87.00
Freedom 7	HQa 51....	168.25
Friendship 7	HQa 59....	336.50
4 Rms.—Earth View	HQ 239....	162.50
Great is the House of the Sun ..	HQ 144....	121.75
Growing Concerns	HQ 278....	87.00
Gyroscopes in Space	HQa 260C ..	87.00
HEAO—The New Universe	HQa 281....	116.00
Hurricane Below	HQ 233....	81.25
If One Today—Two Tomorrow ..	HQ 273....	162.50
Images of Life	HQ 272....	145.00
It's You Against the Problem ..	HQ 146....	133.50
Jupiter Odyssey	HQa 243....	162.50
Land for People, Land for Bears	HQ 279....	87.00
Legacy of Gemini	HQ 160....	162.50
Life?	HQ 261....	90.00
Life Beyond Earth and the Mind of Man	HQ 245....	145.00

Film Title	Film No.	Price
Living in Space—Part III A Technology for Spacecraft Design	HQ 131C ..	69.50
Living in Space—Part II Regenerative Process	HQ 131B ..	116.00
Living in Space—Part I The Case for Regeneration	HQ 131A ..	69.50
Mars and Beyond	HQ 264	90.00
Mars—Is There Life?	HQ 263	90.00
Mars—The Search Begins	HQ 236	168.25
Magnetic Effects in Space	HQa 260F ..	81.25
Magnetism in Space	HQa 260E ..	110.25
Meanwhile Back on Earth	HQ 225	81.25
Mercury, Exploration of a Planet	HQa 282	162.50
*Moonflights and Medicine	HQa 228	
19 Minutes to Earth	HQ 292	87.00
New View of Space	HQ 214	162.50
Our Solar System	HQ 234	29.00
Partners with Industry	HQ 252	75.50
*Partnership in Space— Mission Helios	HQ 254	
Planet Mars	HQ 283	168.25
Pollution Below	HQ 247	81.25
Pollution Solution	HQ 276	87.00
Radio Astronomy Explorer	HQa 186	174.00
Reading the Moon's Secrets	HQa 275	92.75
Remote Possibilities	HQ 280	87.00
Research in the Atmosphere	HQa 180	145.00
Research Project X-15	HQ 79	156.50
Satellite Astronomy— Progress and Promise	HQ 193	98.50
Seeds of Discovery	HQ 196	162.50
Space Expectations	HQ 221	156.50
STARPHAC	HQa 268	162.50
Spaceport USA	HQa 210	139.25
Space Shuttle	HQ 285	87.00
Survival	HQ 274	104.50
*The Age of Space Transportation	HQa 262	
The Apollo 4 Mission	HQa 181	92.75
The Challenge of Unanswer- able Questions	HQ 148	92.75
The Clouds of Venus	HQa 82	174.00
The Dream that Wouldn't Down	HQK 125	89.00
The Flight of Apollo 7	HQ 187	81.25
The Flight of Faith 7	HQa 101	162.50
The Four Days of Gemini 4	HQa 134	162.50
The Fractured Look	HQ 277	87.00
The House that NASA Built	HQ 288	81.25
The Mastery of Space	HQ 9	336.50
The Mission of Apollo/ Soyuz	HQ 256	168.25
The Moon—An Emerging Planet	HQa 230	75.50

Film Title	Film No.	Price
The Moon Old and New	HQa 209....	150.75
The Poetry of Polymers	HQ 143....	110.25
The Time of Apollo	HQ 229....	162.50
The Weather Watchers	HQa 290....	87.00
Tornado Below	HQ 246....	87.00
The Vital Link	HQa 174....	168.25
The Wet Look	HQ 271....	87.00
The World was There	HQ 74....	162.50
Universe	HQ 220....	155.00
Where Dreams Come True	HQ 296....	162.50
Within this Decade:		
America in Space	HQ 191....	168.25
Who's Out There?	HQ 226....	165.00
X-Ray Spectroscopy	HQ 140....	150.75
Zero-G	HQa 260 A..	87.00

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